

REMARKS

After entry of the foregoing amendment, claims 1-13 remain pending in the application.

The withdrawal of the earlier rejections based on Lee and Dent, and the allowance of claims 8-13, are noted with appreciation.

Claims 8 and 11 are amended, above, to correct an antecedent basis issue (i.e., the auxiliary data was referenced - for the first time in each claim - with the term "said," when there had been no earlier reference to such data). The claims are not amended in response to any rejection.

Claims 1-7 stand newly rejected as unpatentable over Johnson (5,872,531) in view of Gilhousen (5,103,459). The rejections are respectfully traversed.

While Johnson and Gilhousen may disclose different aspects of the arrangements detailed in claims 1-7, applicant respectfully submits that *prima facie* obviousness has not been established.

The two references do not relate to the same field of endeavor: Gilhousen concerns generation of PN sequences for use in cell phone systems. Johnson concerns providing ultra low distortion reproduction of analog signals. An artisan considering Johnson would have no reason to look to Gilhousen for relevant teachings.

Moreover, the only motivation offered for the proposed combination offered in connection with claim 1 is "*to provide to reduce mutual interference, thereby permitting greater user capacity and overcome fading read on column 4, lines 22-24.*"

This rationale (taken from Gilhousen, col. 4, lines 22-24) states the reason he wants to achieve *his* objective - generating orthogonal PN sequences. This reasoning does not suggest any combination with Johnson's analog signal reproduction technique, and does not provide the sort of rationale needed to uphold a finding of unpatentability under § 103.

Claim 2 is similarly rejected. That claim reads:

The device of claim 1 in which said plural bits comprise data used to discourage piracy of cellular telephony service.

Neither reference has any teaching about discouraging piracy of cellular telephony services. The art cannot be combined to yield such an arrangement.

Similarly with claim 3, which reads:

The device of claim 1 in which said plural bits comprise data identifying the cellular telephone.

Again, neither reference has any teaching about using such plural bits to identify a cellular telephone. Again, the art cannot be combined to yield such an arrangement.

The Examiner's attention is drawn to copending application 09/479,304, which concerns related subject matter. Claims in that application have been rejected over patents 3,004,104, 3,406,344, 5,084,891, and 5,204,902. A copy of the last substantive Action (dated August 8, 2006) in 09/479,304 is submitted herewith. (Two *Notices of Non-Compliant Amendment* have more recently been issued.) In response, on May 24, 2007, applicant submitted an amendment presenting the following claims:

1-51. (Canceled)

52. (New) A cell phone including radio receiver circuitry, a memory, a data capture system and a radiant-energy digital data transmission system, characterized in that the cell phone further includes a steganographic encoder that alters data captured by the data capture system in accordance with an encoding signal prior to transmission by the data transmission system, wherein the steganographic encoder is adapted to generate an encoding signal that depends, at least in part, on information received by the radio receiver circuitry and stored in the memory.

53. (New) The cell phone of claim 52 in which the data capture system captures audio and includes a microphone.

54. (New) The cell phone of claim 52 in which the steganographic encoder is adapted to operate transparently to a user of the cell phone, wherein all of the data captured by the data capture system and transmitted by the cell phone is steganographically encoded.

55. (New) A method of operating a cell phone, comprising:  
receiving input information;

receiving data wirelessly sent from a remote transmitter;  
steganographically encoding the input information to hide a plural-bit auxiliary code  
therein, the encoding depending, at least in part, on the received data; and  
transmitting the steganographically-encoded information by wireless in a digital format.

56. (New) The method of claim 55 which includes:  
receiving the input information in non-digital form;  
expressing the received information in digital form; and  
encoding the digital form of the input information.

57. (New) The method of claim 56 in which the input information is audio information.

58. (New) The cell phone of claim 52 wherein the steganographic encoder is adapted to  
combine an overlay signal with the data captured by the data capture system.

59. (New) The cell phone of claim 58 wherein the steganographic encoder is adapted to  
generate an overlay signal that is dependent both on the plural-bit auxiliary code and on the data  
captured by the data capture system.

60. (New) The method of claim 55 wherein the steganographic encoding includes  
combining an overlay signal with the input information.

61. (New) The method of claim 60 wherein the overlay signal is dependent both on the  
plural-bit auxiliary code and on the input information.

62. (New) A cell phone including a data capture system and a radiant-energy  
transmission system, characterized in that the cell phone further includes a steganographic encoder  
that modifies data captured by the data capture system in accordance with an encoding signal, to  
hide a plural-bit auxiliary code within the data prior to transmission by the data transmission  
system, the steganographic encoder being adapted to generate an encoding signal that depends - in  
part - on dynamics of the data.

63. (New) The cell phone of claim 62 in which the steganographic encoder is adapted to  
control an amplitude of the encoding signal, in part, in accordance with dynamics of the data.

64. (New) The cell phone of claim 62 further comprising wireless receiver circuitry that  
provides information to a memory, wherein the steganographic encoder is adapted to generate an  
encoding signal that depends, in part, on the information in the memory.

65. (New) A cell phone including a data capture system and a radiant-energy  
transmission system, characterized in that the cell phone further includes a steganographic encoder  
that hides a plural-bit auxiliary code within data captured by the data capture system prior to  
transmission by the data transmission system, the steganographic encoder being adapted to  
introduce a pseudo-random signal to the data in which the hidden code is encoded.

66. (New) A cell phone including a data capture system and a radiant-energy  
transmission system, characterized in that the cell phone further includes a steganographic encoder  
that hides a plural-bit auxiliary code within host data captured by the data capture system prior to  
transmission by the data transmission system, the host data comprising sample values, and the  
steganographic encoder being adapted to increase certain of the sample values and decrease others.

67. (New) The cell phone of claim 66 wherein the steganographic encoder is adapted to increase certain of the sample values between 7.5% and 100%.

68. (New) The cell phone of claim 66 wherein the steganographic encoder is adapted to respond to dynamics of the host data in hiding of the plural-bit auxiliary code within the host data.

69. (New) A method of operating a cell phone, comprising:  
receiving sampled input information;  
steganographically encoding the input information to hide a plural-bit auxiliary code therein; and  
transmitting the steganographically-encoded information from the cell phone in a digital format;  
wherein the steganographically encoding comprises – in a pseudo-random fashion – increasing the values of certain samples and decreasing the values of other samples, the increasing and decreasing depending, in part, on dynamics of the sampled input information.

70. (New) The method of claim 55 that further includes wirelessly communicating an identifier from the cell phone, wherein said plural-bit auxiliary code is at least partially redundant with said identifier, so that at least part of said identifier is sent from the cell phone in two different manners.

71. (New) The method of claim 55 wherein said plural-bit auxiliary code comprises an identifier uniquely identifying the cell phone, rather than identifying the input information or a user of cell phone.

72. (New) The method of claim 52 wherein the steganographic encoder is adapted to generate an encoding signal that also depends – in part – on dynamics of the data

Additional documents from application 09/479,304 are available on the online public file wrapper. Or, if the present Examiner wishes, applicant can submit copies of other documents from the file. A listing of documents in the 09/479,304 wrapper is submitted herewith.

An IDS is also submitted herewith. Among the patents listed are the four patents noted above from prosecution of 09/479,304, together with the patents noted at the bottom of page 2 of the specification (concerning cell phones and fraud deterrence techniques).

Applicant respectfully submits that the present claims are properly allowable over the art, and action to that end is solicited.

Date: June 7, 2007

Customer Number 23735

Phone: 503-469-4800

FAX 503-469-4777

Respectfully submitted,

DIGIMARC CORPORATION

By 

William Y. Conwell  
Registration No. 31,943